



NTSB National Transportation Safety Board

Motorcycle Helmets and Universal Helmet Laws

Motorcycle Helmets

- 2000 NHTSA Report:
 - crash protection for
 - isist than FMVSS 218-
 - motorcycle helmet



- 1998 NHTSA Report:
 - FMVSS 218 com
 - critical fac
 - uction o



Protection

Head injury is a leading cause of death in motorcycle crashes



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Denis Markwell T/A Thundercat

The Helmet

Helmets are designed to protect the rider's head

FMVSS-218 Compliant Helmet



Photo courtesy of David Thom.

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Helmet Effectiveness

- Types of 218 compliant helmets



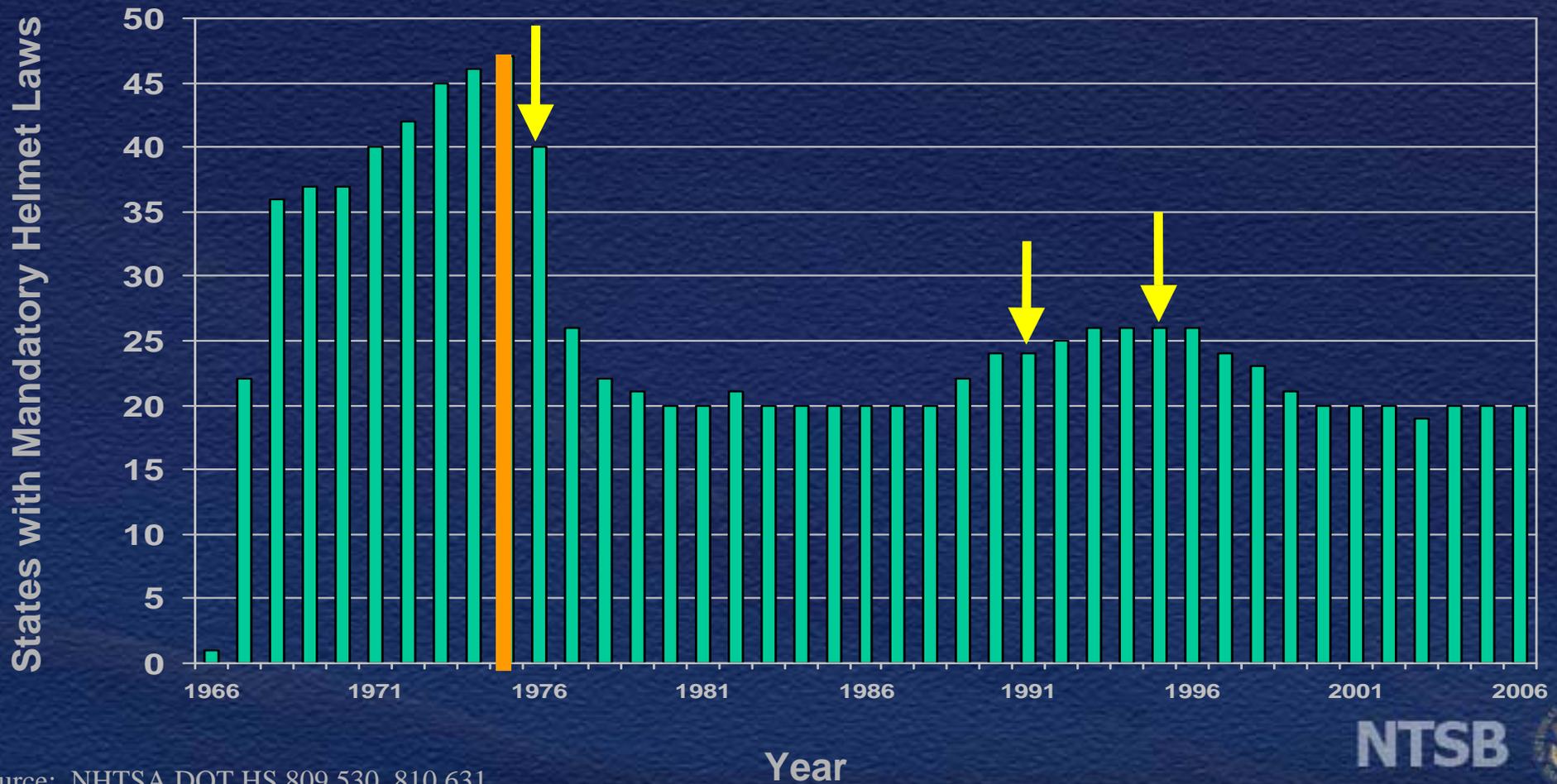
- Protection
 - Non-helmeted riders: three times brain injury risk
 - Helmets reduce risk of fatality by 37%

Helmet Effectiveness

- Lower fatality rates
- Prevent serious head injuries
- Reduce the need for:
 - Ambulance service
 - Hospitalization
 - Neurosurgical intervention
 - Intensive care
 - Rehabilitation
 - Long-term care
- Does *not* increase the risk of other types of injury

Helmet Law History

- 1966: Highway Safety Act
- 1975: Universal laws in 47 states, DC, PR



Helmet Law Definition

- Universal helmet laws
- Partial helmet laws
- No helmet laws

Helmet Law Status for the United States



 Universal helmet laws

 Partial helmet laws

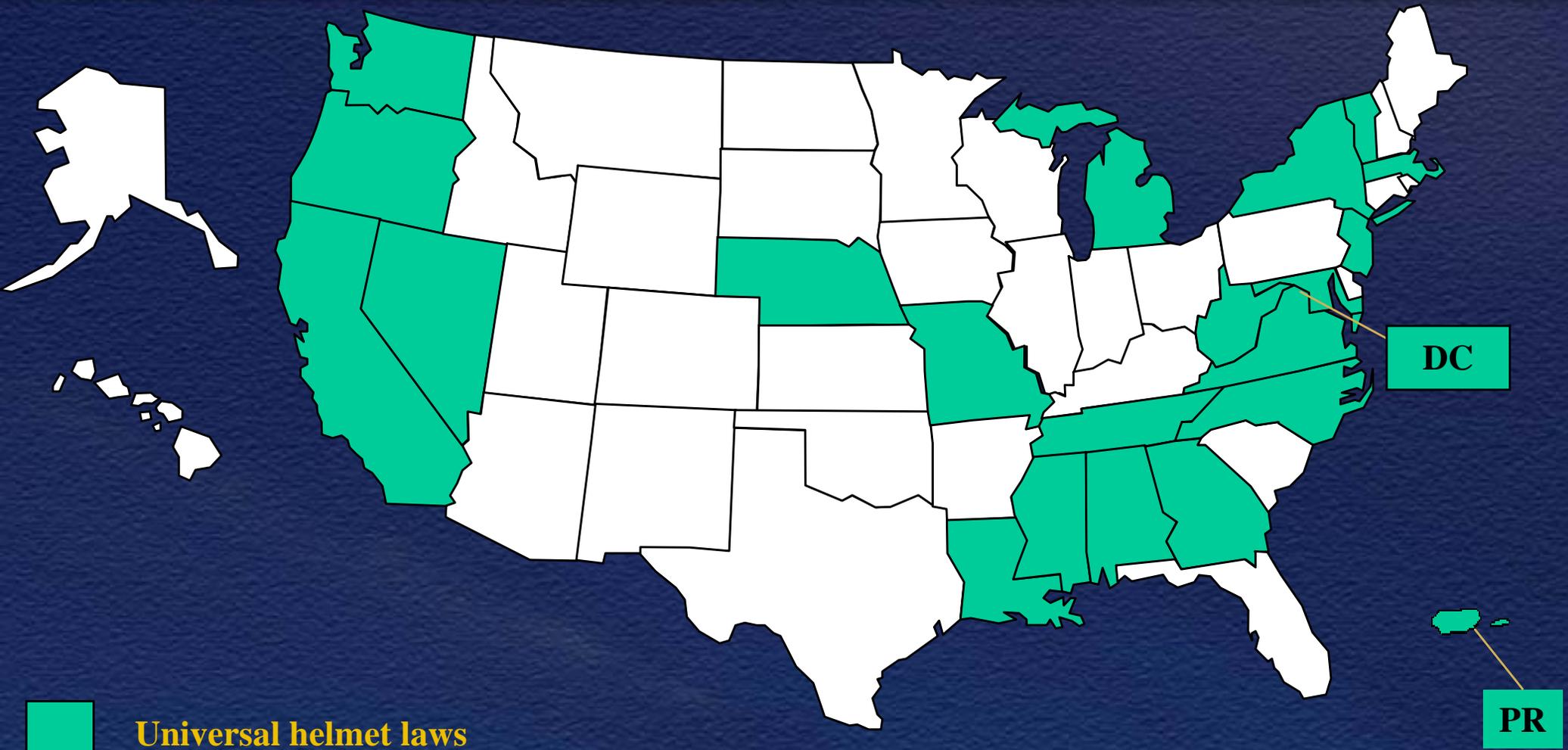
 No helmet laws

As of July 2007

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Helmet Law Status for the United States



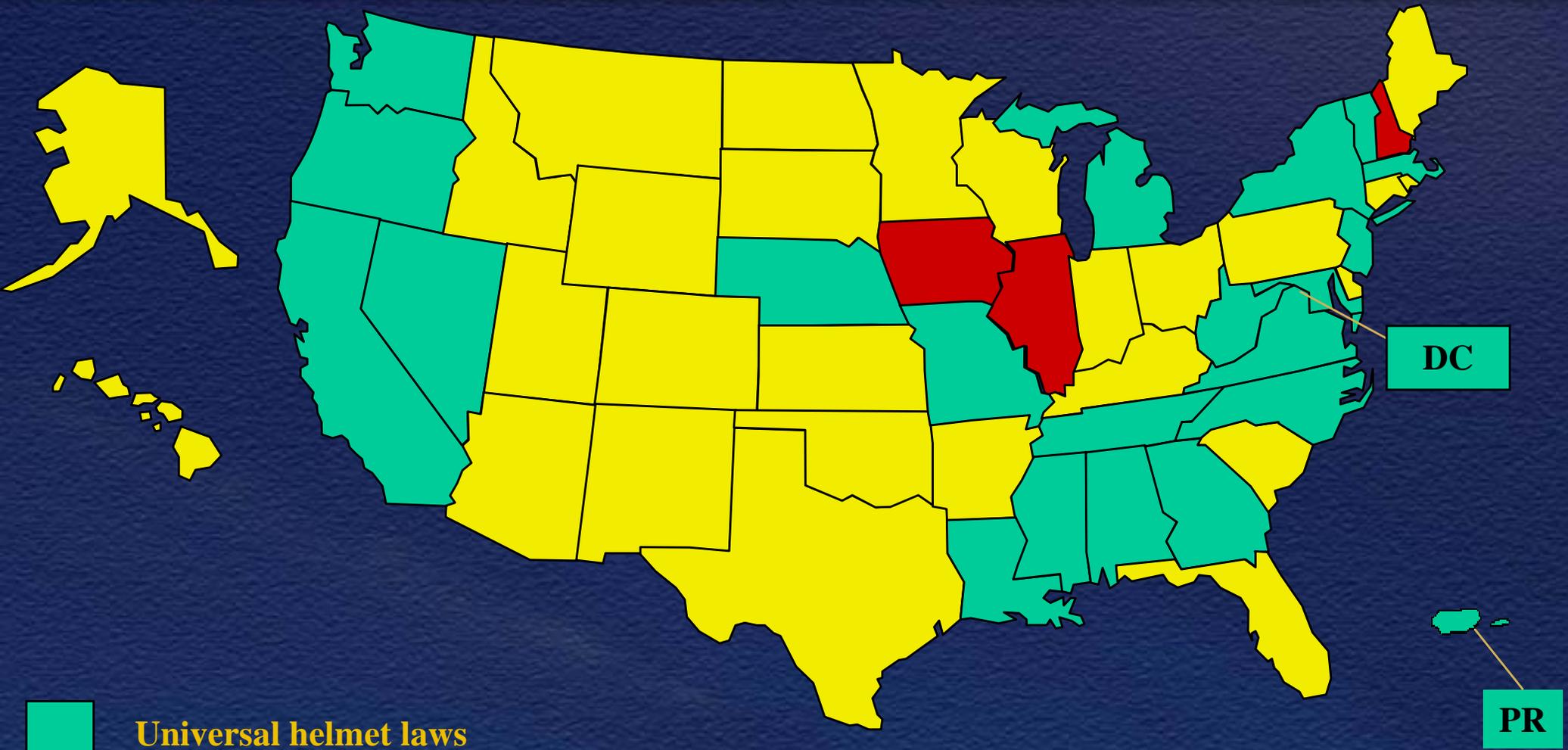
As of July 2007

-  Universal helmet laws
-  Partial helmet laws
-  No helmet laws

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Helmet Law Status for the United States



-  Universal helmet laws
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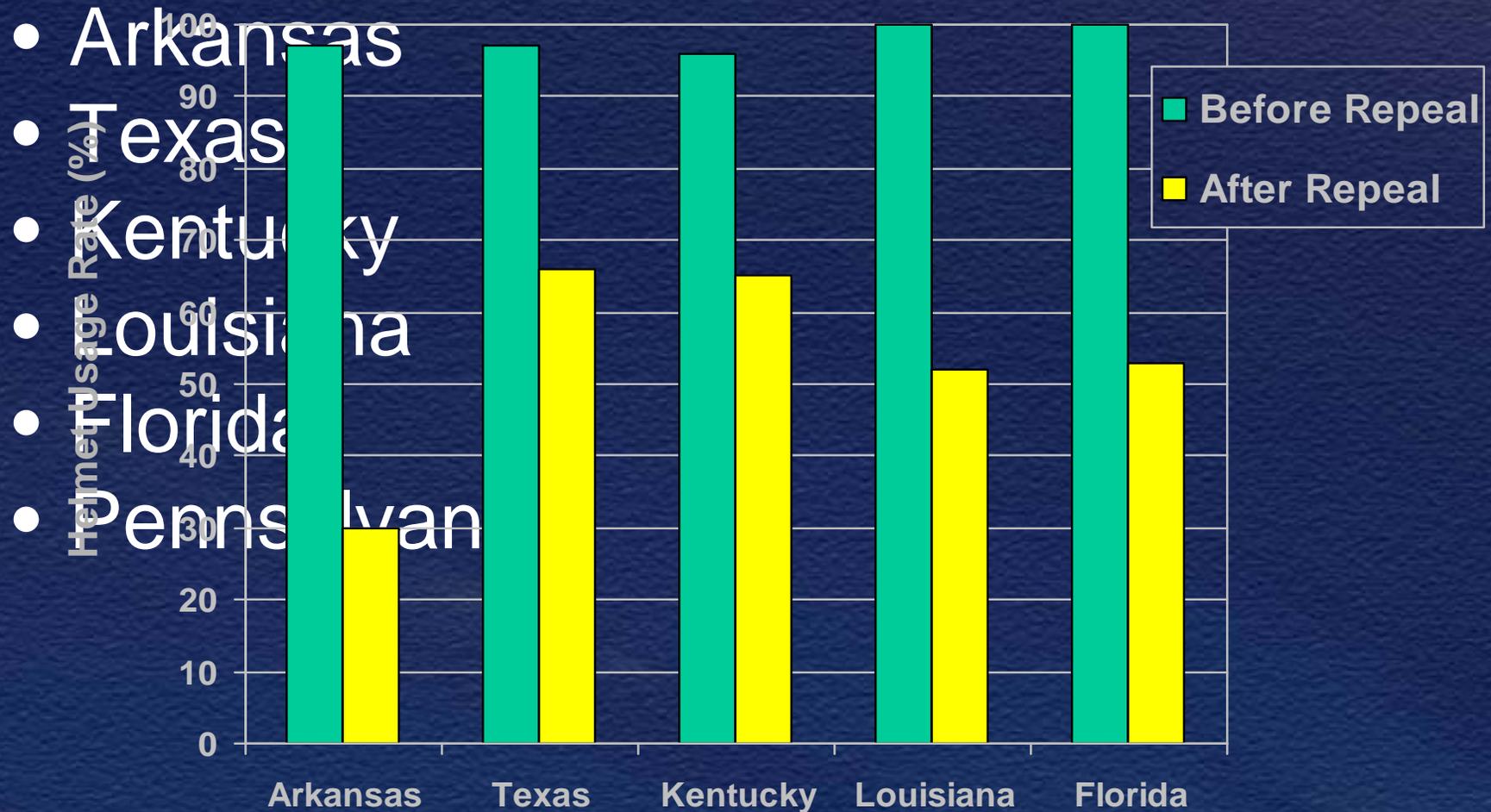
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Universal Helmet Law Repeals

- 1997: several states repealed helmet laws



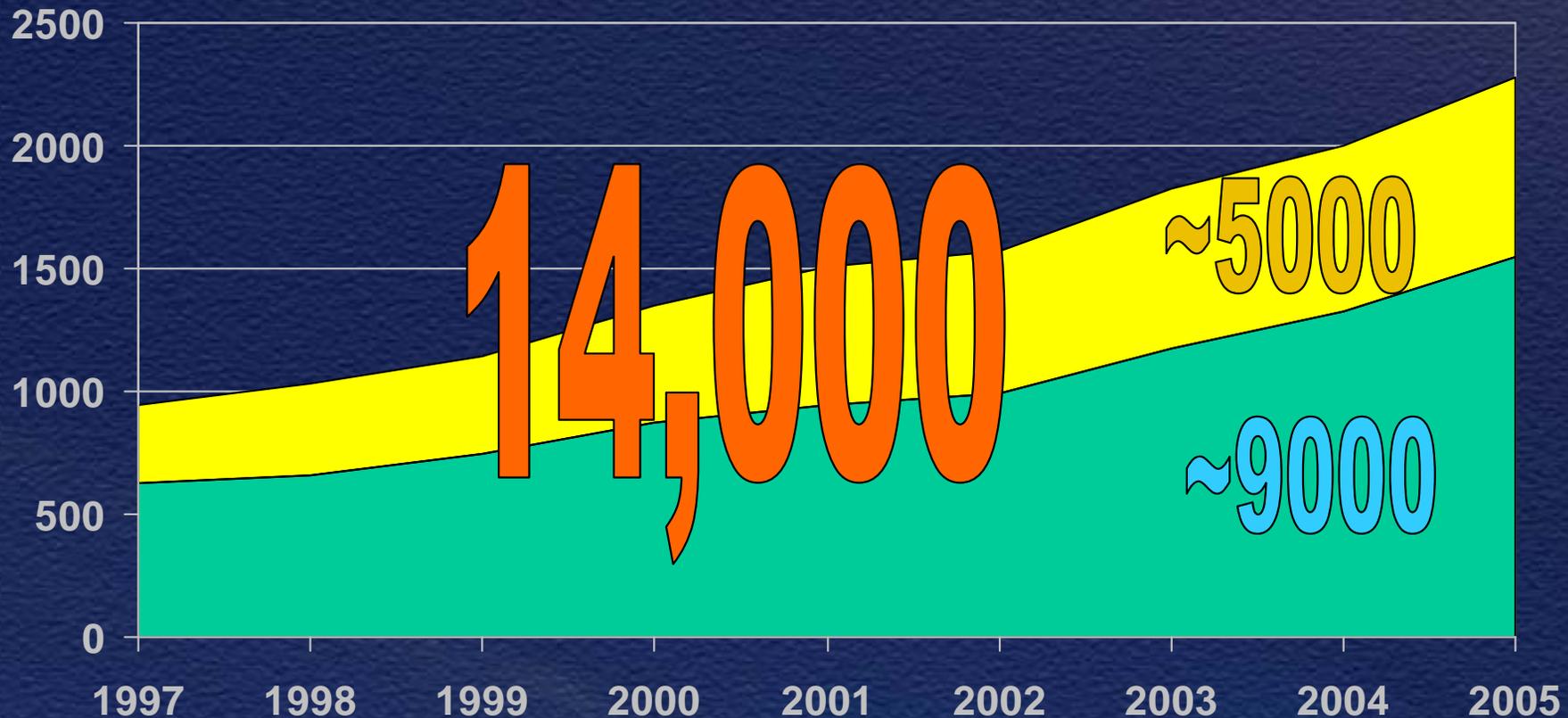
Universal Helmet Law Repeals

- 117 more deaths in Florida
- 80 more deaths in Texas
- 4x more likely to suffer traumatic brain injuries (unhelmeted) in Kentucky
- 60 more deaths in Louisiana

Universal Helmet Law Repeals

- Helmet usage decreases dramatically
- Brain injuries increase
- Deaths increase

Lives Saved by Helmets 1997-2005



- Additional Lives That Would Have Been Saved at 100% Helmet Use
- Lives Saved by Helmet Use

Why Universal Helmet Laws?

- Rider protection; high usage rates
- Cost: 2005
 - 110,000 motorcyclists involved in crashes
 - \$17.5 billion
 - Unhelmeted riders
 - 36% of the involved motorcyclists
 - 70% of the cost (\$12.2 billion)
 - \$71,000 for helmeted riders
 - \$310,000 for unhelmeted riders

Young Riders' Lives

- Enforcement
- Usage rates drop
- Least experienced; engage in risky behavior
- Partial laws: little protection for minors
- Universal laws: 31% reduction in fatalities

Use of Safety Devices

- Motorcycle helmets
 - National survey: 61% ridden without helmet favor helmet use
- Seat belt use laws
 - 211,000 lives saved since 1975



Summary

- Motorcycle helmets are effective at preventing deaths and injuries during motorcycle crashes
- Universal helmet laws maximize usage of compliant helmets for all riders



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